TROX TJN JET NOZZLES – ACOUSTICALLY AND TECHNICALLY OPTIMISED

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Jet nozzles are the preferred solution wherever the supply air has to travel large distances from the point of discharge to the occupied zone. TROX now presents an enhanced and acoustically and technically optimised jet nozzle..

The new TJN jet nozzles have been developed from the successful TROX DUK jet nozzles. The new product type is not only aesthetically attractive but also more energy efficient; plus it offers improved acoustic properties. The new jet nozzle is made of high-grade polymer and available in RAL white aluminium or pure white. The versatile jet nozzles create a comfortable climate in large internal spaces even under diverse temperature conditions.

The swirl unit, which is available as an option and can be easily attached, is a technical innovation. It enables a two-step reduction of the discharge range to 80% or 60% and is hence ideal for smaller spaces. The remarkable acoustic optimisation is achieved by air control blades with unique saw tooth edges.

The swivel angle for the supply air flow, or jet, can be adjusted in increments of 5° within a range from +30° to -30°; the angle can even be limited. Due to this innovative feature the TJN jet nozzle will maintain the previously set swivel angle such that the required comfort criteria are actually met..

Another innovation is the automatic adjustment with shape memory alloy (SMA). Shape memory alloys, also called memory metals, 'remember' their original shape and return to that pre-deformed shape when heated. The compact shape memory actuator is placed directly in the airflow of the jet nozzle such that it can immediately react to changes in the supply air temperature.

The effect of the SMA is such that the swivel angle of the jet nozzle is automatically adjusted within a temperature range of about 18 °C to 28 °C; the comfort criteria in the occupied zone are ensured as a consequence. The adjustment happens much faster than with conventional expansion materials. Neither an actuator drive nor extensive wiring is required.

Advantages of the TJN jet nozzle

- Up to 6 dB less noise than with DUK jet nozzles due to optimised nozzle contours
- Jet angle can be adjusted, limited, and fixed
- Two-step reduction of the discharge range for smaller spaces
- High-grade polymer in RAL white aluminium or pure white
- Simple installation due to bayonet fixing (concealed) at the discharge ring
- Self-adjusting variant with short response time due to actuator made of shape memory alloy
- Flat external motor ensures compact installation and increased energy efficiency
- Control input signal for the motorised nozzle with TROX Temperature Difference Control (TDC) and integration with measurement and control system if required
- Five sizes, each available for duct (rectangular or circular) or direct connection
- All variants are also available with outer casing for visible areas

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TROX is the leader in the development, manufacture and sale of components and systems for the air conditioning and ventilation of rooms. With subsidiary companies in 25 countries on all 5 continents, 14 production facilities, and importers and representatives, TROX is present in over 70 countries. Founded in 1951 and with a staff of 3,650 employees, TROX generated sales around the globe of more than €400 million in 2012.

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